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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,772	01/10/2001	Jong In Song	EM/SONG/6404	6482

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EXAMINER

TAKAOKA, DEAN O

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 12/28/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/756,772

Applicant(s)

SONG ET AL.

Examiner

Dean O Takaoka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 3.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

**DETAILED ACTION*****Specification***

The disclosure is objected to because of the following informalities:

- 1) Brief Description of Drawings (page 9, lines 23-25) and specification (page 11, line 17): Fig. 9 is not included in the drawings.

It is noted by the examiner that Fig. 9 is included in the foreign application but not included in the US application. The examiner recommends either to include the drawing of Fig. 9 with the US application or delete references to Fig. 9 (as noted above) from the specification.

- 2) "Hoever" (page 11, line 17) appears to be a typographical error. Since this also appears to be a transition, the examiner recommends --[.] however,--.

Appropriate correction is required.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the following as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing.

MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

- 1) "Fig. 9" is not included in the drawings (as noted in specification objections).

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2) "Cds" (page 2, lines 8 and 23) is not shown. With respect to Fig. 2, the examiner notes that the capacitor adjacent to gmV(2) is not labeled and questions if this should be labeled as capacitor Cds.

The applicant is required to provide a copy of the drawings with proposed drawing changes marked in red ink as required by 37 CFR 1.121(d).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 recites the limitation "wherein x value ... capacitance (C3) is  $0 < x < 1$ " in page 13, lines 13-14. There is insufficient antecedent basis for this limitation in the claim.

The limitation is suggested in the specification by " $0 < x < 0$  in Fig. 9" (page 11, line 17). Fig. 9 is not included in the current application (e.g. noted in the objections above) and further where " $0 < x < 0$ " is not " $0 < x < 1$ ". Since "x" is disclosed in Claim 2 as a "location", it is unclear where reference points 0 or 1 would be located (e.g. along drain line with respect to nodes of Ld) to determine where "x" can be located (e.g.  $0 < x < 1$ ). The specification further recites that "x value is 0.5" (page 11, line 19). Since points 0 and 1 with respect to the limitation " $0 < x < 1$ " are not clearly disclosed in the specification and not shown in any drawing figures, with the further disclosure in the specification that "x value is 0.5", there is insufficient antecedent basis for this limitation in the claim.

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Claim 3 recites the limitation "x value is 0.5" in page 13, line 21. There is insufficient antecedent basis for this limitation in the claim.

For the reasons stated above with respect to claim 2, it is not clear if "x" is a value or location therefore the value of x being "0.5" is unclear. It is unclear if this is meant to be that x is at some mid-point (e.g. between Lg 2(2) and Lg 2(3) – shown in Fig. 8) or if "0.5" represents an actual value (un-defined in the specification), thus there is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Beyer et al. (U.S. Patent No. 5,046,155).

Beyer et al. (Fig. 3, 6, and Fig. 7) shows a traveling-wave amplifier having a  $\Pi$ -type output transmission line structure (shown in Fig 7) wherein a periodic manner; the drain terminal of FET(1) is connected between drain lines Ld2(1) and Ld2(2) (shown in Fig. 6 as drain lines L/L when substituted between nodes 42 in Fig. 3 – col. 4, lines 44-51); the additional capacitance C3(1) is connected between drain lines Ld2(2) and Ld2(3) (shown in Fig. 6 as capacitance C between drain lines L/L when substituted between nodes 42 in Fig. 3 – col. 4, lines 44-51); the gate terminal of FET(2) is

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connected between Lg(1) and Lg(2) (shown as transmission lines 15 – Fig. 3 and/or L/L – Fig. 6);

and in so far as can be understood, where x value representing the location of the additional capacitance (C3) is inherently  $0 < x < 1$  (where reference points 0 and 1 are not disclosed by the applicant and where Beyer et al. shows the same T type L/C structure in Fig. 6 where the capacitor C is located between L/L, which when substituted into Fig. 3 between nodes 42 shows the same T type structure as the applicant's).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beyer et al.

Beyer et al. shows the traveling-wave amplifier above.

Beyer et al. shows the additional capacitance C3 (shown as C in Fig. 6 with respect to Figs. 3 and 7) and further shows that C is apparently located in the middle between L and L (Fig. 6) but does not specifically recite optimal bandwidth improvement where, in so far as can be understood, the value of x is 0.5 (e.g. located at mid-point between L and L).

It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to have modified the location of the capacitor in the drain line disclosed by Beyer et al. to locate the capacitor at a mid-point between L and L. Such a modification would have been a mere optimization of design, further suggested by Beyer et al. in that the capacitor appears to be at a mid-point (shown in Fig. 6) thus suggesting the obviousness of the modification.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dueme – shows a distributed amplifier.

Allen et al. – shows a distributed circuit with amplifiers.

Schindler – show a distributed amplifier.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O Takaoka whose telephone number is (703) 305-6242. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean O Takaoka can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-0142 for regular communications and (703) 305-0142 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dot  
December 19, 2001

A handwritten signature in black ink, featuring a large, stylized 'P' and a long horizontal stroke extending to the right.